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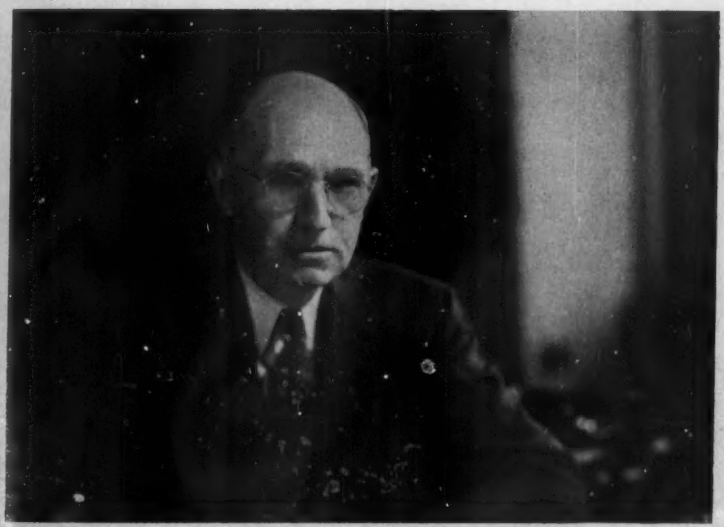


ALBERT TEN EYCK OLMSTEAD
1880–1945

TABLE OF CONTENTS

	PAGE
From the President's Desk	2
Albert Ten Eyck Olmstead, 1880-1945. John A. Wilson	3
George Ricker Berry, 1865-1945. W. F. Albright	5
The Kahun Papyrus and the Date of the Twelfth Dynasty. Lynn H. Wood	5
An Indirect Synchronism Between Egypt and Mesopotamia, cir. 1730 B. C. W. F. A.	9
An Unknown Representation of a Ziggurat. Edith Porada	18
Acknowledgment to Dr. Hildegard Lewy	21
Some Publications Received by the Editor	21
Notes on Publications of the Schools	24

For indexes to previous numbers of the BULLETIN see Nos. 50, 74, 76, 80.

FROM THE PRESIDENT'S DESK

Word has been received from the Westminster Press that Dr. Glueck's new book, *The Jordan*, is in the printer's hands. The date of publication has not yet been announced.

It is a pleasure to report that since my last communication the Southern Baptist Theological Seminary of Louisville, Kentucky, and the Berkeley Baptist Divinity School of Berkeley, California, have become members of our corporation.

The opportunity and responsibility of American scholarship in the days ahead are more and more brought home to us by letters being received from abroad. A Lance-Corporal in the British army in Palestine writes, "Wherever I have been, in the long peregrinations of the last three years, the Bulletin has faithfully and regularly followed me and brought a few inspiring hours in the hollow and dreary Army life. The torch of learning and culture is high held by the U. S. and may it light, for many years to come, this war-stricken House of Europe: we are in such need of it." A student of history and archaeology in a Dutch University, writing to ask for some of our publications, tells how he went into hiding during the German occupation and used the time learning Middle and New Egyptian. Libraries and publishers are coming out into the light like people crawling out from the débris of bomb-shattered buildings. May we, without failing to meet the basic physical needs of the peoples of the world, be guided also in doing our part so that those who hunger and thirst for knowledge may be filled.

Dr. Glueck has now returned to this country for a vacation with his family and an opportunity to work up some of his accumulated archaeological material for publication. He reports that all is well with the School in Jerusalem. Plans for the early resumption of normal work by both of our Schools are now under discussion. Suggestions from our members and friends will be welcome.

MILLAR BURROWS.

September 20, 1945.

ALBERT TEN EYCK OLMSTEAD
1880–1945

On April 11, 1945, Albert Ten Eyck Olmstead was taken from our ranks. A broken thigh bone had sent him to the hospital in January and was a contributing cause of the pneumonia which brought his end just after his sixty-fifth birthday. But in a truer sense Olmstead was a victim of his unswerving devotion to the work which he loved. For he could never conceive of life except in terms of unsparing dedication, and he had given himself so fervently to productive scholarship that he had no reserve strength with which to meet the strain of illness.

Olmstead was devoted to what was his: his scholarly work, his students, and his family. From his student days in Cornell, where he threw himself into toil under the guidance of Nathaniel Schmidt, he followed a single purpose in a world essentially different and indifferent. His student years, his first field travels, and his attempts to establish himself in his chosen career were hampered by privations, frustrations, and unconcern. Preclassical history, based on preclassical sources, was a commodity with an infinitesimal market. Olmstead never thought of changing the commodity or of dressing it up. He simply clung to the program of sound method and basic materials and was thus an important agent in increasing the market demand.[1]

Olmstead's scholarly career moved through four different universities, but his work has consistently been directed toward publication and may be outlined in terms of his books, only four of which have been published. These are *Western Asia in the Days of Sargon of Assyria*, *History of Assyria*, *History of Palestine and Syria*, and *Jesus in the Light of History*. Unpublished are the volumes of his history of the Near East from the time of Cyrus to the rise of Islam: the completed manuscript on the history of the Persian Empire, a history of the Hellenistic and Iranian Orient, and a history of New Testament times.

Forty years ago Olmstead's first appointment came from the American Schools of Oriental Research: the Thayer Fellowship at Jerusalem in 1904-05. This orientation to the field and to original materials was given added impetus in 1907-08, when he directed the Cornell University Expedition to Asia Minor and the Assyro-Babylonian Orient. An intent, self-denying group of young men sought less familiar monuments in lesser known areas and produced a report characterized by the objective viewpoint of the professional historian. In 1909 Olmstead became Instructor in Ancient History at the University of Missouri and began the

[1] In an appreciative study of Breasted, published in *The Open Court*, Jan. 1936, pp. 1 f., Olmstead conveys something of his own search for scholarly standing. "When one young graduate student, suspecting that there might be a future in the ancient history of the Near East, attended his first meeting of the American Historical Association, he was treated courteously but inspected curiously as a strange animal who had wandered into the wrong zoo." By 1910 a group of young enthusiasts (with Olmstead the organizing spirit) ventured to set up their own ancient history section at the sessions of the Association; and in 1928, "the former youngsters met as recognized professionals."

unremitting activity of teaching and research which characterized the rest of his career.

Fifteen years lie between his study on Sargon of Assyria (1908) and his *History of Assyria* (1923), but the flood of journal articles within that period traces the development of his powers of research. These articles provide an answer to the criticism of the *History* that it lacked an expected documentation of argument. The consecutive account of Assyrian history was the product of years which had seen at least fifteen articles of scholarly argument; Olmstead felt that repeated documentation need not interrupt the flow of historical statement.

The *History of Palestine and Syria* (1931) was essentially a product of years at the University of Illinois (1917-29). Like the preceding work it presents the results obtainable from the source materials when they are worked over by the professional historian. The psychological value of the study lies in the fact that the biblical account has been treated with the same dispassionate eyes as the non-biblical source material. The result is a just appreciation of the Hebrew culture in terms of its larger environment, and the culture does not suffer by this secular treatment.

The period of Olmstead's association with the Oriental Institute of the University of Chicago (1929-1945) has general coincidence with his interest in the later phases of ancient oriental history. The chief published expression of that concern was the little book, *Jesus in the Light of History* (1942), which has the great merit of illuminating the oriental background of the gospel story. As the histories of Assyria and of Palestine and Syria drew material and inspiration from Olmstead's field experience in the 1900's, so this later history—the Persian Empire and its successors—drew heavily from Olmstead's intensive field travels of 1936-37, when he was Annual Professor of the Schools at Baghdad.

Olmstead worked in the comprehensive tradition of such scholars as Eduard Meyer. He was able to make a sound contribution to almost every problem of the ancient Near East with which he dealt, either because he knew the materials at first hand or because he could adduce close parallels for them. In this age of narrower specialists his range of firm grasp was outstanding.

His students recall gratefully his teaching of rigid historical method and attitude and his warm concern for their scholarly advancement. He cherished every working hour, but he gladly took out time to discuss with them their personal and professional interests.

In addition to his 1904-05 and 1936-37 appointments, Olmstead was a Trustee of the Schools from 1931 to 1936 and a Corporation Representative from 1936 until his death. He leaves important work unfinished, but he leaves to his students and colleagues a permeating influence which will be responsible for sound scholarly research along lines of his devotion.

JOHN A. WILSON.

GEORGE RICKER BERRY

1865–1945

On May 24th Professor Berry died at Cambridge, Mass., in his eightieth year. Born October 15th, 1865, at Sumner, Maine, he received his A. B. in 1885 from Colby College (which gave him the D. D. in 1904), and his Ph. D. from the University of Chicago in 1895, majoring in the field of Assyriology. Having been ordained to the Baptist ministry, he was appointed to a teaching post at Colgate-Rochester Divinity School in 1896, remaining there in various capacities until 1934, when he retired as Professor of Semitic Languages and Literatures. He was for many years representative of his institution on the Corporation of the Schools, and he became very much interested in Palestine. He spent 1929-30 and 1935-36 at the School in Jerusalem as Honorary Lecturer; in 1933-34 he was there as Annual Professor. It is pleasant to remember the enthusiasm which Berry displayed for all branches of Palestinology—sorting potsherds at Bethel, collecting data on folklore and especially on Eastern Christianity, exploring every possible corner of the Holy Land. His Jehu-like driving had to be experienced to be appreciated.

Professor Berry was an earnest scholar, author of some ten books and monographs in various fields, besides many shorter papers and articles. A man of intense convictions and decided personality, he was not satisfied merely to follow, but he preferred to blaze out new paths. Had he been introduced to the many fascinating aspects of Palestinian science in his earlier life he would undoubtedly have made a name for himself there also. We shall miss his genial spirit and his extraordinary interest in life.

W. F. Albright.

THE KAHUN PAPYRUS AND THE DATE OF THE TWELFTH DYNASTY (WITH A CHART)

Lynn H. Wood

There is something very intriguing about the Kahun Papyri, as two dates are given that can be identified and synchronized with computed astronomical facts. Prof. O. Neugebauer well states the problem by saying that they

"contain two astronomical statements, quoted in the following under 'A' and 'B':

A: announcement of the heliacal rising of Sothis on the 16th day of the month VIII of the year 7 (of an unknown king, x) given in a letter written 21 days earlier.

B: new moon (or new light?) fell on day 26 month X of the year 30 (of an unknown king, y)."[1]

He also adds in a footnote that "The text gives more dates of the same kind but trivial consequences of the first one."

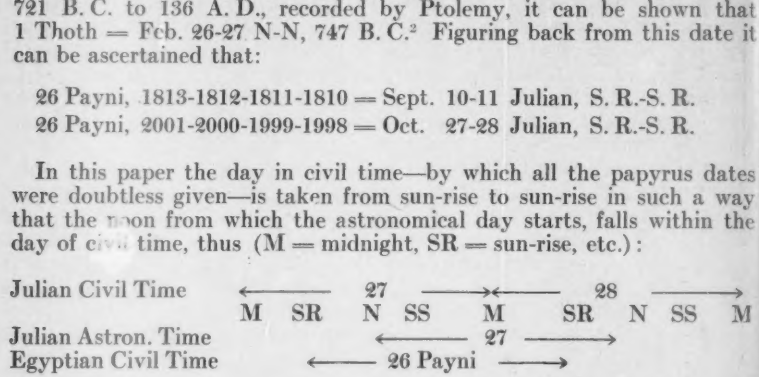
[1] O. Neugebauer: "The Chronology of the Hammurabi Age," *JAOS*, Vol. LXI (1941), p. 60.

But perhaps by the use of these additional "dates of the same kind" the key will be found to unlock the chronology of the dynasty and to prove the equation King x = King y.

For a start the 26th of Payni is traced through the centuries under discussion. From abundant evidence certified by 19 lunar eclipses from 721 B. C. to 136 A. D., recorded by Ptolemy, it can be shown that 1 Thoth = Feb. 26-27 N-N, 747 B. C.[2] Figuring back from this date it can be ascertained that:

26 Payni, 1813-1812-1811-1810 = Sept. 10-11 Julian, S. R.-S. R.
26 Payni, 2001-2000-1999-1998 = Oct. 27-28 Julian, S. R.-S. R.

In this paper the day in civil time—by which all the papyrus dates were doubtless given—is taken from sun-rise to sun-rise in such a way that the noon from which the astronomical day starts, falls within the day of civil time, thus (M = midnight, SR = sun-rise, etc.):

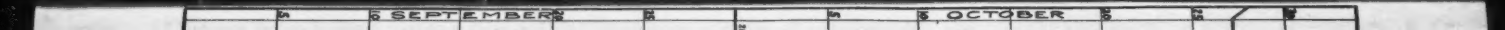


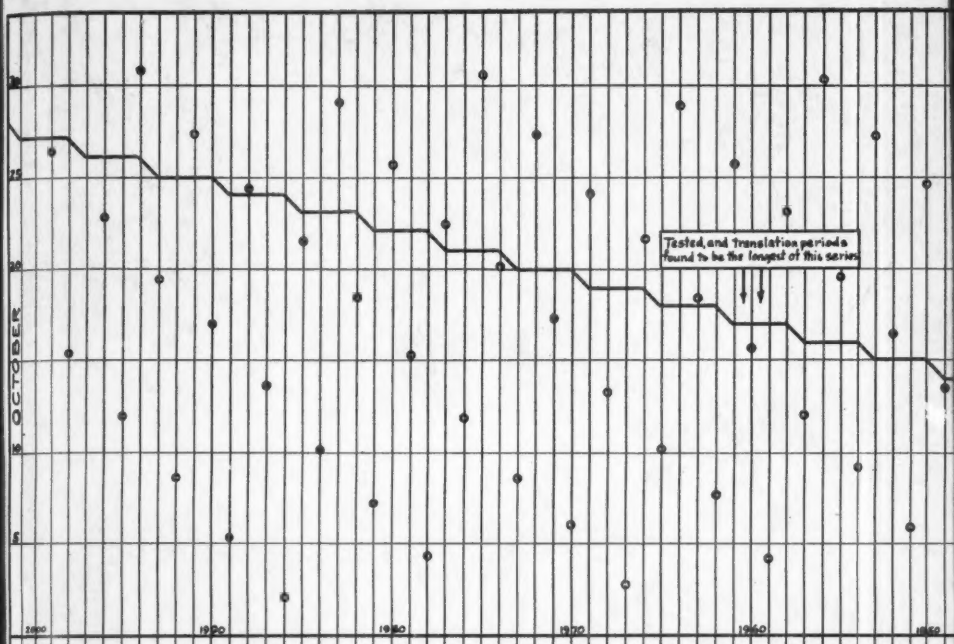
Should the 26th Payni begin with the sun-rise of the 28th, none of the astronomical data would check with the papyri.

Notice the staggered base line on the chart representing the movement of this date back through the months during the two centuries from 2000-1800 B. C. Each vertical line crossing this line represents the Payni date for that specific year. Since this 26th of Payni represented the change of priestly function, I assume as a working hypothesis that it is based on a lunar calendar, and is the time of new moon. In order to find the years when the moon's conjunction could come at such a time as to make a new crescent possible on this date, the pertinent conjunctions for the months of September and October have been plotted on the chart. Those offering a possible solution have been computed accurately, and the others only approximately.[3] Naturally, no conjunctions appearing on or above the base line for 26 Payni have been considered.

An examination of the chart shows 14 conjunctions coming in such close proximity to the base line as to demand detailed analysis. Seven of these occur at intervals of 25 years from 1810-1809 to 1961-1960, and their analysis is shown in the appropriate boxes at the top of the chart.[4] As the conjunctions are all figured from midnight to midnight for the position of Memphis, the new crescent for 26th Payni would be observed at 26.75 Julian time, and the difference between this and the time of conjunction would be the translation period. Following the working

[2] Claudius Ptolemy, *Composition mathématique*, Trans. by M. Halma, Paris, 1813.
[3] For this computation—Schoch's tables, as published in Langdon's *Venus Tablets of Ammizaduga*, Tables I-VIII, have been used.
[4] It is a well-known astronomical fact, as noted by Wheeler, "The Chronology of the Twelfth Dynasty," *JEA* (1923), p. 200 that 25 Egyptian years equal 25 × 365 = 9125 days and 309 lunations of the moon = 309 × 29.53059 = 9124.95 days.


SEPTEMBER
OCTOBER



Year 3 1871

1 2 3 4 5 6 7 8 AMENEMHET I. 20 21 22 23 24 25 26 27 28 29 30

1 2 3 4 5 6 7 8 9 10 11 12 13 14 SESOSTRIS I

SEPTEMBER

New Moons for 1974-1975 B.C.

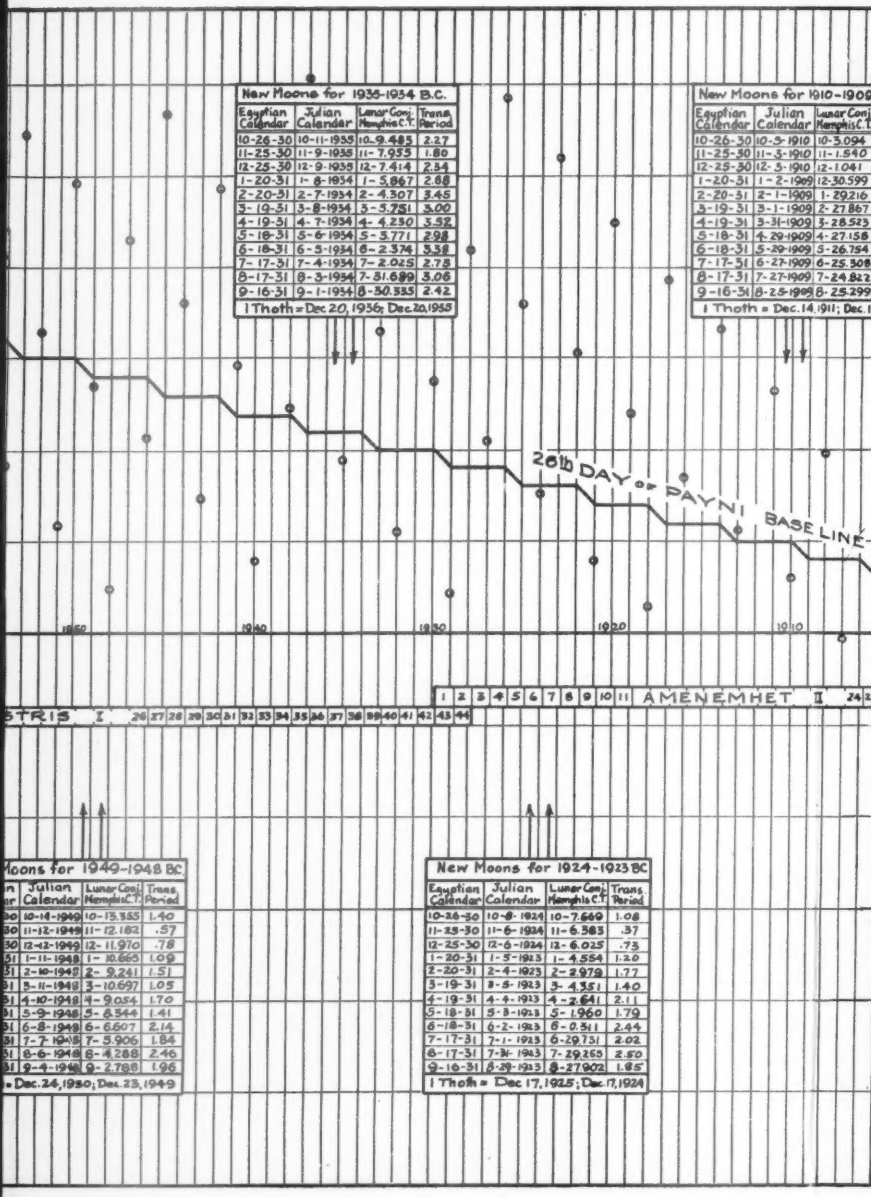
Egyptian Calendar	Julian Calendar	Lunar Cons. Memphis C.T.	Trans. Period
10-26-30	10-21-1974	10-20.109	1.64
11-25-30	11-19-1974	11-18.829	.92
12-25-30	12-19-1974	12-18.623	1.13
1-20-31	1-18-1975	1-17.424	1.53
2-20-31	2-17-1975	2-15.158	1.59
3-19-31	3-17-1975	3-16.770	.98
4-19-31	4-16-1975	4-15.256	1.49
5-18-31	5-15-1975	5-14.648	1.10
6-18-31	6-14-1975	6-12.986	1.76
7-17-31	7-13-1975	7-12.312	1.44
8-17-31	8-12-1975	8-10.655	2.10
9-16-31	9-10-1975	9-9.038	1.71

1 Thoth = Dec. 30, 1976; Dec. 30, 1974

New Moons for 19

Egyptian Calendar	Julian Calendar	L
10-26-30	10-14-1949	1
11-25-30	11-12-1949	1
12-25-30	12-12-1949	1
1-20-31	1-11-1948	1
2-20-31	2-10-1948	2
3-19-31	3-11-1948	3
4-19-31	4-10-1948	4
5-18-31	5-9-1948	5
6-18-31	6-8-1948	6
7-17-31	7-7-1948	7
8-17-31	8-6-1948	8
9-16-31	9-4-1948	9

1 Thoth = Dec. 24, 1948


New Moons for 1935-1934 B.C.
Egyptian Calendar | Julian Calendar | Lunar Conj. Memphis C.T. | Trans. Period
10-26-30 | 10-11-1935 | 10-9.485 | 2.27
11-25-30 | 11-9-1935 | 11-7.955 | 1.80
12-25-30 | 12-9-1935 | 12-7.414 | 2.34
1-20-31 | 1-8-1934 | 1-5.867 | 2.88
2-20-31 | 2-7-1934 | 2-4.307 | 3.45
3-19-31 | 3-8-1934 | 3-5.751 | 3.00
4-19-31 | 4-7-1934 | 4-4.230 | 3.52
5-18-31 | 5-6-1934 | 5-3.771 | 2.98
6-18-31 | 6-5-1934 | 6-2.374 | 3.38
7-17-31 | 7-4-1934 | 7-2.025 | 2.73
8-17-31 | 8-3-1934 | 8-31.699 | 3.06
9-16-31 | 9-1-1934 | 8-30.335 | 2.42
1 Thoth = Dec 20, 1936; Dec 20, 1935
New Moons for 1910-1908
Egyptian Calendar | Julian Calendar | Lunar Conj Memphis C.T.
10-26-30 | 10-5-1910 | 10-3.094
11-25-30 | 11-3-1910 | 11-1.540
12-25-30 | 12-3-1910 | 12-1.041
1-20-31 | 1-2-1909 | 12-30.599
2-20-31 | 2-1-1909 | 1-29.216
3-19-31 | 3-1-1909 | 2-27.867
4-19-31 | 3-31-1909 | 3-28.523
5-18-31 | 4-29-1909 | 4-27.158
6-18-31 | 5-29-1909 | 5-26.754
7-17-31 | 6-27-1909 | 6-25.308
8-17-31 | 7-27-1909 | 7-24.822
9-16-31 | 8-25-1909 | 8-25.299
1 Thoth = Dec. 14, 1911; Dec.
26th DAY of PAYNI BASE LINE
1950
1940
1930
1920
1910
1 2 3 4 5 6 7 8 9 10 11 AMENEMHET I 24
STRIS I 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44
Moons for 1949-1948 BC
Julian Calendar | Lunar Conj Memphis C.T. | Trans. Period
10-14-1949 | 10-13.355 | 1.40
11-12-1949 | 11-12.182 | .57
12-12-1949 | 12-11.970 | .78
1-11-1948 | 1-10.665 | 1.09
2-10-1948 | 2-9.241 | 1.51
3-11-1948 | 3-10.697 | 1.05
4-10-1948 | 4-9.054 | 1.70
5-9-1948 | 5-8.344 | 1.41
6-8-1948 | 6-6.607 | 2.14
7-7-1948 | 7-5.906 | 1.84
8-6-1948 | 8-4.288 | 2.46
9-4-1948 | 9-2.788 | 1.96
Dec. 24, 1950; Dec. 23, 1949
New Moons for 1924-1923 BC
Egyptian Calendar | Julian Calendar | Lunar Conj Memphis C.T. | Trans. Period
10-26-30 | 10-8-1924 | 10-7.669 | 1.08
11-25-30 | 11-6-1924 | 11-6.583 | .37
12-25-30 | 12-6-1924 | 12-6.025 | .73
1-20-31 | 1-5-1923 | 1-4.554 | 1.20
2-20-31 | 2-4-1923 | 2-2.979 | 1.77
3-19-31 | 3-5-1923 | 3-4.351 | 1.40
4-19-31 | 4-4-1923 | 4-2.641 | 2.11
5-18-31 | 5-3-1923 | 5-1.960 | 1.79
6-18-31 | 6-2-1923 | 6-0.511 | 2.44
7-17-31 | 7-1-1923 | 6-29.731 | 2.02
8-17-31 | 7-31-1923 | 7-29.265 | 2.50
9-16-31 | 8-29-1923 | 8-27.902 | 1.85
1 Thoth = Dec 17, 1925; Dec 17, 1924

for 1910-1909 B.C.			
lian dar	Lunar Conj. Memphis C.T.	Trans. Period	
-1910	10-5.094	2.66	
-1910	11-1.540	2.21	
-1910	12-1.041	2.71	
-1909	12-30.599	3.15	
-1909	1-29.216	3.55	
1909	2-27.867	2.88	
-1909	3-26.523	3.23	
-1909	4-27.158	2.59	
-1909	5-26.754	3.00	
-1909	6-25.308	2.44	
-1909	7-24.822	2.95	
-1909	8-25.299	2.45	

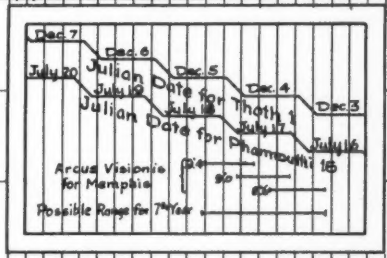
ec. 14, 1911; Dec. 14, 1910

New Moons for 1885-1884 B.C.			
Egyptian Calendar	Julian Calendar	Lunar Conj. Memphis C.T.	Trans. Period
10-26-30	9-28-1885	9-25.729	3.03
11-25-30	10-27-1885	10-29.311	2.44
12-25-30	11-26-1885	11-24.085	2.67
1-20-31	12-28-1885	12-25.727	3.02
2-20-31	1-25-1884	1-22.491	3.26
3-19-31	2-23-1884	2-21.225	2.55
4-19-31	3-25-1884	3-22.981	2.87
5-18-31	4-23-1884	4-21.434	2.32
6-18-31	5-23-1884	5-20.985	2.87
7-17-31	6-21-1884	6-19.248	2.50
8-17-31	7-21-1884	7-18.582	3.17
9-16-31	8-19-1884	8-16.932	2.82

1 Thoth = Dec. 8, 1886; Dec. 7, 1885

New Moons			
Egyptian Calendar	Julian Calendar		
10-26-30	9-22-		
11-25-30	10-21-		
12-25-30	11-20-		
1-20-31	12-20-		
2-20-31	1-19-		
3-19-31	2-17-		
4-19-31	3-		
5-18-31	4-17-		
6-18-31	5-17-		
7-17-31	6-15-		
8-17-31	7-15-		
9-16-31	8-13-		

1 Thoth = Dec.



ASE LINE

2010 | 2000 | 1990 | 1980 | 1970

1 2 3 4 5 SESOSTRIS II 16 17 18 19

T II 24 25 26 27 28 29 30 31 32 33 34 35

7

1 2 3 4 5 6 7 8 9 10 11 12 SESOS

New Moons for 1899-1898 BC.			
Egyptian Calendar	Julian Calendar	Lunar Conj. Memphis C.T.	Trans. Period
10-26-30	10-2-1899	10-1.704	1.05
11-25-30	10-31-1899	10-31.231	.53
12-25-30	11-30-1899	11-29.762	1.05
1-20-31	12-30-1899	12-29.169	1.59
2-20-31	1-29-1898	1-27.648	2.15
3-19-31	2-27-1898	2-28.962	1.79
4-19-31	3-29-1898	3-27.367	2.39
5-18-31	4-27-1898	4-28.848	1.95
6-18-31	5-27-1898	5-28.317	2.42
7-17-31	6-25-1898	6-26.917	1.88
8-17-31	7-25-1898	7-25.396	2.16
9-16-31	8-23-1898	8-23.281	1.46

1 Thoth = Dec. 11, 1900; Dec. 11, 1899

New Moons for 1874-1873 BC.			
Egyptian Calendar	Julian Calendar	Lunar Conj. Memphis C.T.	Trans. Period
10-26-30	9-26-1874	9-25.304	1.34
11-25-30	10-25-1874	10-24.853	0.92
12-25-30	11-24-1874	11-23.289	1.46
1-20-31	12-24-1874	12-23.567	2.18
2-20-31	1-25-1873	1-21.855	2.97
3-19-31	2-21-1873	2-19.849	1.90
4-19-31	3-22-1873	3-20.487	2.26
5-18-31	4-20-1873	4-18.880	1.89
6-18-31	5-20-1873	5-18.691	2.06
7-17-31	6-19-1873	6-17.347	1.40
8-17-31	7-18-1873	7-16.918	1.86
9-16-31	8-16-1873	8-16.457	1.79

1 Thoth = Dec. 3, 1875; Dec. 3, 1874

910-1909 B.C.	
Lunar Conj. Memphis C.T.	Trans. Period
10-3.094	2.66
11-1.540	2.21
12-1.041	2.71
12-30.599	3.15
1-29.216	3.53
2-27.867	2.86
3-26.523	3.23
4-27.158	2.59
5-26.754	3.00
6-25.508	2.44
7-24.822	2.93
8-25.299	2.45

1911; Dec 14, 1910

New Moons for 1885-1884 BC.

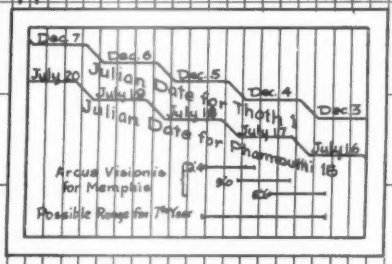
Egyptian Calendar	Julian Calendar	Lunar Conj. Memphis C.T.	Trans. Period
10-26-30	9-29-1885	9-25.729	3.05
11-25-30	10-27-1885	10-29.311	2.44
12-25-30	11-26-1885	11-24.085	2.67
1-20-31	12-26-1885	12-25.727	3.02
2-20-31	1-25-1884	1-22.491	3.26
3-19-31	2-25-1884	2-21.225	2.55
4-19-31	3-25-1884	3-22.981	2.87
5-18-31	4-23-1884	4-21.434	2.32
6-18-31	5-23-1884	5-20.885	2.87
7-17-31	6-21-1884	6-19.246	2.50
8-17-31	7-21-1884	7-18.582	3.17
9-16-31	8-19-1884	8-16.932	2.82

1 Thoth = Dec. 8, 1886; Dec. 7, 1885

New Moons for 1860-1859 B.C.

Egyptian Calendar	Julian Calendar	Lunar Conj. Memphis C.T.	Trans. Period
10-26-30	9-22-1860	9-19.684	3.07
11-25-30	10-21-1860	10-19.450	2.32
12-25-30	11-20-1860	11-18.188	2.59
1-20-31	12-20-1860	12-18.109	2.64
2-20-31	1-19-1859	1-16.831	2.92
3-19-31	2-17-1859	2-15.442	2.51
4-19-31	3-19-1859	3-16.919	2.93
5-18-31	4-17-1859	4-15.296	2.45
6-18-31	5-17-1859	5-14.610	3.14
7-17-31	6-15-1859	6-12.902	2.85
8-17-31	7-15-1859	7-12.200	3.55
9-16-31	8-13-1859	8-10.550	3.20

1 Thoth = Dec. 1, 1861; Dec. 1, 1860



New Moons for 1899-1898 BC.

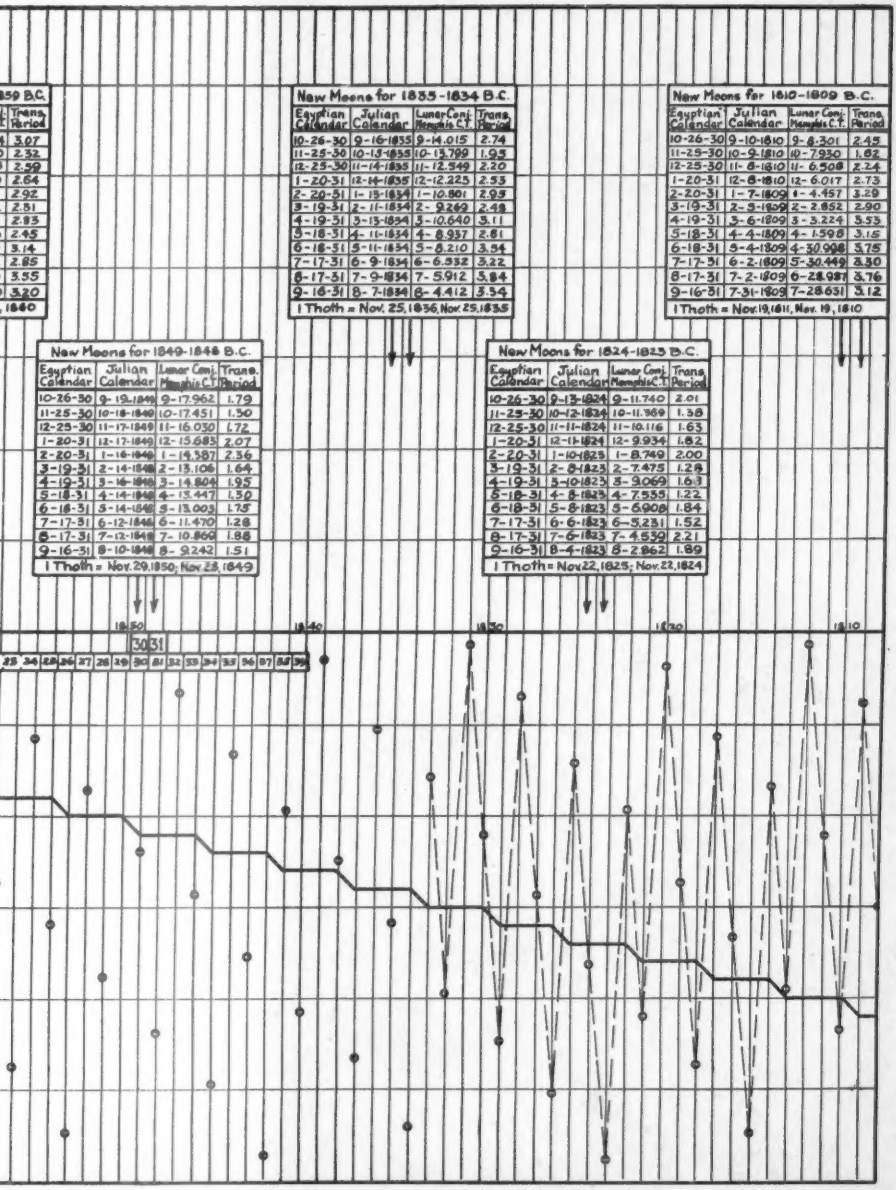
Egyptian Calendar	Julian Calendar	Lunar Conj. Memphis CT	Trans. Period
10-26-30	10-2-1899	10-1.784	1.05
11-25-30	10-31-1899	10-31.221	.55
12-25-30	11-30-1899	11-28.702	1.05
1-20-31	12-30-1899	12-29.185	1.59
2-20-31	1-29-1898	1-27.608	2.15
3-19-31	2-27-1898	2-25.962	1.79
4-19-31	3-29-1898	3-27.367	2.39
5-19-31	4-27-1898	4-25.805	1.95
6-18-31	5-27-1898	5-25.317	2.43
7-17-31	6-25-1898	6-23.917	1.93
8-17-31	7-25-1898	7-25.586	2.16
9-16-31	8-23-1898	8-23.291	1.46

1 Thoth = Dec. 11, 1900; Dec. 11, 1899

New Moons for 1874-1873 BC

Egyptian Calendar	Julian Calendar	Lunar Conj. Memphis CT	Trans. Period
10-26-30	9-26-1874	9-25.304	1.34
11-25-30	10-25-1874	10-24.853	0.92
12-25-30	11-24-1874	11-23.289	1.48
1-20-31	12-24-1874	12-22.567	2.18
2-20-31	1-23-1873	1-21.285	2.47
3-19-31	2-21-1873	2-19.649	1.90
4-19-31	3-22-1873	3-20.481	2.26
5-18-31	4-20-1873	4-18.880	1.88
6-18-31	5-20-1873	5-18.691	2.06
7-17-31	6-18-1873	6-17.347	1.40
8-17-31	7-18-1873	7-16.928	1.86
9-16-31	8-16-1873	8-15.457	1.29

1 Thoth = Dec. 5, 1875; Dec. 5, 1874


New Moons for 1859 B.C.
Trans. Period
3.07
2.32
2.59
2.64
2.92
2.51
2.93
2.45
3.14
2.85
3.55
3.20
1860
New Moons for 1835-1834 B.C.
Egyptian Calendar
Julian Calendar
Lunar Conj. Memphis C.T.
Trans. Period
10-26-30 9-16-1835 9-14.015 2.74
11-25-30 10-15-1835 10-13.799 1.93
12-25-30 11-14-1835 11-12.599 2.20
1-20-31 12-14-1835 12-12.225 2.53
2-20-31 1-13-1834 1-10.901 2.93
3-19-31 2-11-1834 2-9.269 2.48
4-19-31 3-13-1834 3-10.640 3.11
5-18-31 4-11-1834 4-8.937 2.81
6-18-31 5-11-1834 5-8.210 3.54
7-17-31 6-9-1834 6-6.332 3.22
8-17-31 7-9-1834 7-5.912 3.84
9-16-31 8-7-1834 8-4.412 3.54
1 Thoth = Nov. 25, 1836, Nov 25, 1835
New Moons for 1810-1809 B.C.
Egyptian Calendar
Julian Calendar
Lunar Conj. Memphis C.T.
Trans. Period
10-26-30 9-10-1810 9-8.301 2.45
11-25-30 10-9-1810 10-7.930 1.82
12-25-30 11-8-1810 11-6.508 2.24
1-20-31 12-8-1810 12-6.017 2.73
2-20-31 1-7-1809 1-4.457 3.29
3-19-31 2-9-1809 2-2.852 2.90
4-19-31 3-6-1809 3-3.224 3.53
5-18-31 4-4-1809 4-1.598 3.15
6-18-31 5-4-1809 4-30.998 3.75
7-17-31 6-2-1809 5-30.449 3.30
8-17-31 7-2-1809 6-28.987 3.76
9-16-31 7-31-1809 7-28.631 3.12
1 Thoth = Nov. 19, 1811, Nov. 19, 1810
New Moons for 1849-1848 B.C.
Egyptian Calendar
Julian Calendar
Lunar Conj. Memphis C.T.
Trans. Period
10-26-30 9-19-1849 9-17.962 1.79
11-25-30 10-18-1849 10-17.451 1.30
12-25-30 11-17-1849 11-16.030 1.72
1-20-31 12-17-1849 12-15.683 2.07
2-20-31 1-16-1849 1-14.387 2.36
3-19-31 2-14-1848 2-13.106 1.64
4-19-31 3-16-1848 3-14.804 1.95
5-18-31 4-14-1848 4-13.447 1.30
6-18-31 5-14-1848 5-13.003 1.75
7-17-31 6-12-1848 6-11.470 1.28
8-17-31 7-12-1848 7-10.860 1.88
9-16-31 8-10-1848 8-9.242 1.51
1 Thoth = Nov. 29, 1850; Nov 28, 1849
New Moons for 1824-1823 B.C.
Egyptian Calendar
Julian Calendar
Lunar Conj. Memphis C.T.
Trans. Period
10-26-30 9-13-1824 9-11.740 2.01
11-25-30 10-12-1824 10-11.369 1.38
12-25-30 11-11-1824 11-10.116 1.63
1-20-31 12-11-1824 12-9.934 1.82
2-20-31 1-10-1823 1-8.749 2.00
3-19-31 2-8-1823 2-7.475 1.24
4-19-31 3-10-1823 3-9.069 1.63
5-18-31 4-8-1823 4-7.555 1.22
6-18-31 5-8-1823 5-6.908 1.84
7-17-31 6-6-1823 6-5.231 1.52
8-17-31 7-6-1823 7-4.559 2.21
9-16-31 8-4-1823 8-2.862 1.89
1 Thoth = Nov 22, 1825; Nov 22, 1824
1850
1840
1830
1820
1810
30 31
25 26 28 29 27 28 29 30 31 32 33 34 35 36 37 38 39

hypothesis that the 12 dates given in the papyrus indicate the time of the newly observed crescent, there is here a fine chance to study the apparent lengths of the translation period. A study of the seven records shows this period to be unusually long, so for the present they are set aside to consider the range of seven positions detailed in the boxes nearer the base-line.

Going backward through the years it is noted that the translation periods for the second date mentioned in the papyrus, namely, 25th of Epiphi, keep getting shorter and shorter until the earliest one in 1974-73, which begins to lengthen again. A mere glance at the translation periods in the boxes below the base line is enough to convince one there is little possibility of their entering into the discussion. But a consideration of the two dates 1849-48 and 1824-23 shows the translation periods are of such a length that either one might be considered as the period under observation in the Kahun papyri as the 30th and 31st years of some unnamed king.

Again using the accurately documented date 1 Thoth = Feb. 26, 747 and figuring back we get 16 Pharmouthi = July 20–July 16 for the years 1885-1866. It is fairly certain that the heliacal rising of Sothis must come within this range for a latitude near Memphis. The difficulty comes in knowing the *arcus visionis*. Edgerton, in discussing Borchardt's experimentation of 1926, uses the possible values of 9°.4, 9°.0, and 8°.6 as proper values to use in figuring the date of the star's heliacal rising.[5]

Following his lead the Sothic date for the above range of years was computed from Neugebauer's tables and the following shows the results.

Year	*Arcus Visionis*		
B. C.	9°.4	9°.0	8°.6
1877	17	17	16
1876	17	17	16
1875	18	17	17
1874	18	17	17
1873	17	17	16
1872	17	17	16
1871	18	17	17[6]

As plotted on the chart these possible values for the *arcus visionis* give a range of 8 years—1875-1868—during which the heliacal rising of Sothis could take place on the 16th of Pharmouthi in the 7th years of some unknown king x.

By test it is now found that if the period 1849-48 is used for the years 30, 31, the 7th year of that same king would fall right in the middle of this required range, Dec. 4, 1872–Dec. 3, 1871 at a time of possible 9°.0 for the *arcus visionis*. The regnal list of the 12th dynasty is such that this interval between the 7th year, 1872-71, and the 30, 31st year, 1849-

[5] W. F. Edgerton, "Chronology of the Early 18th Dynasty," AJSL, LIII (1936-37), pp. 192, 193.

[6] Paul V. Neugebauer, *Astronomische Chronologie*, Berlin, 1929, Vol. I, pp. 149-155; 159-162.

48, will not fit any but the years of one king. Nor will the other possibility of 1824-23 for the 30, 31 year fit any possible combination of rulers. Therefore that part of the working hypothesis is proven, viz. King x = King y.

Now since all seem agreed that the Kahun papyri mention the name of Sesostris II, and inasmuch as Sesostris' name is mentioned in the letter predicting the rising of Sothis, the 7th year could not fall in the reign of a king previous to Sesostris II, nor could it fall, let us say, in the reign of Amenemḥet III, who followed Sesostris III. Inasmuch as Sesostris II did not reign 30 years and Sesostris III reigned longer than that length of time and inasmuch as the astronomical data given show that King x = King y it is most reasonable to assume that King x = King y = Sesostris III.[7]

All this computation appears to settle the first year of Sesostris III as beginning 1 Thoth = Dec. 6, 1879 Julian. Edgerton, Breasted, and many others are agreed in accepting the following synchronizing of certain years in the reigns of Sesostris' predecessors:

Year 30 of Amenemḥet I = year 10 of Sesostris I
Year 44 of Sesostris I = year 2 of Amenemḥet II
Year 35 of Amenemḥet II = year 3 of Sesostris II[8]

The Kahun papyrus itself indicates that the first year of the new king follows immediately after the 19th year of Sesostris II.[9]

Putting all this together as shown on the chart we have the first year of Amenemḥet beginning 1 Thoth (January 3) 1991 B. C. The interest shown and the practical suggestions made when all this was shown to Professor Neugebauer were very heartening and immensely appreciated.

Thus the reasons for Borchardt's assigning the papyri containing this astronomical information to the reign of Sesostris III on account of similarity of script between those and others mentioning the king's name, have been demonstrated to be astronomically correct.[10] Again our results

[7] Weigall has felt that in the time of the Hyksos rulers the calendar was tampered with in such a way as to make a difference of 120 years in all reckonings before the days of the Hyksos. He says:

"Khyan is an important figure for Biblical students. . . . It was in the eleventh year of this reign, 1767 B. C., that an adjustment of the calendar was made. At that time the Egyptian calendar instituted at the beginning of the first Dynasty had made one complete cycle of the real year, and had now fallen back again exactly a month behind the seasons; and Khyan therefore gave orders that an extra month should be added, and that the second month of the year should become the first. The Egyptians seem to have felt that this tampering with the calendar was sacrilegious and when on one of the calendar festivals which had to be postponed for a month there was a thunderstorm and on another it rained, a certain scribe nervously made a note of the fact, as though to say that the gods were angry, and this note has chanced to be preserved."—*A Short History of Ancient Egypt*, London, 1934, pp. 93, 94.

Assuming for the sake of argument the reasonableness of such a statement the same kind of an examination of translation periods in the centuries covered by his hypothesis shows that not a single date meets the necessary requirements and therefore his interpretation of the Ebers papyrus must be regarded as in error.

[8] J. H. Breasted, *Ancient Records*, Vol. I, pars. 460, 616. W. F. Edgerton, *op. cit.*, p. 314.

[9] L. Borchardt, "Der zweite Papyrusfund von Kahun," ZäS xxxvii (1899), 92.

[10] Borchardt, *op. cit.*, p. 99.

prove that the prediction of the 16th of Pharmouthi as a Sothic date is correct, and not the 17th, on which there was a temple entry of offerings evidently presented on the 16th. Also the 7th year of the king fits in admirably with the hypothesis that an *arcus visionis* of 9° for Kahun was satisfactory in the days of the 12th Dynasty. It is also demonstrated that the dates of the change of priestly function were dependent on observed new crescents, or at least on computed dates that were accurately checked by observation. It is quite remarkable that the relationship between the Egyptian calendar in this period and the various astronomical recordings are such that there is only one solution in the entire two centuries under consideration. This indicates the meticulous accuracy of the Egyptian calendar.

AN INDIRECT SYNCHRONISM BETWEEN EGYPT AND MESOPOTAMIA, CIR. 1730 B. C.*

W. F. Albright

Our readers are well acquainted with the historical significance of the extraordinary discoveries made by M. André Parrot in the ruins of the royal palace of Zimrī-Lim, king of Mari on the Middle Euphrates (cir. 1730-1700 B. C.).[1] Late in 1939 M. Georges Dossin published a passage from a cuneiform inventory, found in the palace, referring to a certain *Ia-an-ti-in-ḫa-mu*, king of Byblus, who had sent Zimrī-Lim a gold vase weighing two-thirds of a mina.[2] A few months later the writer pointed out that this Yantin-'ammu (as the name would be in Canaanite)[3] was probably identical with the Byblian prince whose name appears in Egyptian hieroglyphs as *'-n-t-n* or *'-n-ti-n*, that is, Antin or Entin,[4] since the latter, known to us for a relief and several scarabs, flourished about the same time. When the writer first made this observation the Khorsabad List of Assyrian kings had not yet been published, and the writer then

* I wish to thank Professor Seele of the University of Chicago for his great kindness in reading this paper in advance of publication. I have profited in a number of points from his keen criticisms. He is not, however, to be held responsible for any statement of mine or for the form in which it is couched. [While reading proof I have been able to utilize some helpful observations of Drs. H. E. Winlock and Ludlow Bull, to both of whom I extend my hearty thanks for their kindness in reading this paper.]

[1] See the sketches given in Bulletin, No. 67, pp. 26 ff.; No. 69, pp. 18 ff.; No. 77, pp. 20 ff., 25 ff.; No. 78, pp. 23 ff.; also scattered papers and notes in subsequent numbers. Ample bibliographic indications have been given in these papers.

[2] *Syria*, XX (1939), p. 111; cf. Bulletin, No. 77 (Feb., 1940), p. 27.

[3] A different explanation of this and smaller names containing the element *'ammu* (which could be written only *am[m]u* or *ḫam[m]u* in cuneiform) has been given by Julius Lewy ("The Old West Semitic Sun God *Ḫammu*" in *Heb. Un. Col. Ann.*, XVIII, 1944, pp. 429 ff.), but the evidence from contemporary Egyptian transcriptions and later alphabetic ones is entirely opposed, as the writer has pointed out in his review in *Jour. Bib. Lit.*, June, 1945, pp. 291 ff.).

[4] The fifth sign in Newberry's second scarab (*Jour. Eg. Arch.*, 1928, p. 109) is unquestionably the loaf of bread (*tiz*), which occurs with the hieroglyph for *t* to form the group *ti* in documents of the 19th and 18th centuries: cf. my *Vocalization of the Egyptian Syllabic Orthography* (1934), pp. 10, § 19; 26, § 54; 32, II. A. 1, etc.

dated Zimrī-Lim, who was contemporary with Hammurabi of Babylon, some 70 years too high.[5] As a result, there was considerable strain in trying to adjust the synchronism to the known facts, a feat which I attempted to achieve by an unwarranted abbreviation of the interval between the end of the Twelfth Dynasty and the reign of Nefer-ḥetep (see below).[6] After Poebel's publication of the contents of the Khorsabad List in 1942/43, which proved that all previous chronologies were too high, I reduced my chronology (which had in the interim been changed slightly to agree with that of Sidney Smith of the British Museum)[7] by 64 years, combining the evidence of the Venus observations from the reign of 'Ammī-ṣaduqa of Babylon with the data of the Khorsabad List.[8] This latest reduced chronology fits the archaeological and historical picture so exactly that it cannot be appreciably wrong, so far as I can see.[9]

According to the new reduced chronology we must date Zimrī-Lim cir. 1730-1700 B. C.,[10] since Mari was taken by Hammurabi in the 32nd year of the latter's reign,[11] 1697 B. C., and Zimrī-Lim may already have been replaced by the last king of the dynasty, Enim-Dagan. It follows that Yantin-'ammu was still ruling in Byblus after about 1730 B. C., though he may have died very soon afterwards.

[5] See BULLETIN, No. 77, pp. 25 ff. This chronology was abandoned on the publication of the Khorsabad King-list.

[6] Cf. BULLETIN, No. 77, pp. 27 f.; No. 83, p. 32. Farina's reconstruction of the Turin Papyrus was not yet available to me at the time these papers were written.

[7] See Sidney Smith, *Alalakh and Chronology* (1940), together with my remarks, BULLETIN, No. 79, p. 36, *Am. Jour. Arch.*, 1943, pp. 491 f.

[8] BULLETIN, No. 88, pp. 28 ff.

[9] Sidney Smith has now come out with a vigorous defense of his 1940 chronology (see n. 7 and note that this is the system followed, e. g., in my book, *From the Stone Age to Christianity*) against Poebel and myself in *Am. Jour. Arch.*, XLIX (1945), pp. 1-24. The kernel of his argument lies in the date of Tholos B of Platanos in the Messara Plain of southern Crete, since Middle-Minoan I pottery occurs there along with a characteristic Babylonian cylinder-seal of the Hammurabi Age and with two Egyptian scarabs of the Thirteenth Dynasty. I have no quarrel whatever with the statements of Smith about the haematite cylinder in question (*op. cit.*, p. 15), and agree that the type made its appearance with Rīm-Sin of Larsa (my chronology: 1758-1698) about the middle of the eighteenth century. The two scarabs are best dated in the early part of the same century, as already recognized by Newberry and Smith (*loc. cit.*), and they form a very clear warning against dating the end of interments in Tholos B before the middle of the century. As is well known, M. M. I pottery lasted down to the spread of M. M. III pottery over the island of Crete, since M. M. II pottery was restricted to the wealthy North-Cretan palaces of Cnossus and Phaestus. The shift from M. M. I to M. M. III (contemporary with the late Hyksos Age in Egypt) is dated by Smith (*op. cit.*, p. 24) about 1800 B. C.; I prefer a date about a century later, in agreement with Schaeffer (*Ugaritica*, 1939, pp. 53 ff.). M. M. II, which was contemporary (see above) with late M. M. I, appears at Ugarit together with vases characteristic of the eighteenth century in Syria and Palestine.—In rereading the chronological discussions in Pendlebury's standard book, *The Archaeology of Crete* (1939), I have been struck again with the confusion brought into the Aegean picture by the use of the antiquated high Babylonian chronology, as a result of which the period of Hammurabi was put three or four centuries too high and the age of the Cappadocian tablets as much as six centuries too early. If Aegean archaeologists allow for a certain lag in both cases, I have no doubt that they will find the new Mesopotamian dates in full accord with any reasonable interpretation of their stratigraphic and typological evidence.

[10] Some thirty names of years from his reign are known: Dossin, *Syria*, XX (1939), p. 105.

[11] Thureau-Dangin, *Symbolae Paulo Koschaker dedicatae* (Leiden, 1939), pp. 119 f.

The existence of Prince Entin of Byblus was discovered by Newberry, who bought two scarabs bearing his name from a dealer in 1924 and published them early in 1928;[12] both scarabs probably came from Montet's excavations at Byblus. The two scarabs were clearly inscribed, *ḥ3ty-ʿ n Kpn 'ntn* (var. *'-n-ti-n*), "Prince of Byblus, Entin." Newberry, then the foremost authority on scarabs, dated them "to the period immediately following the Twelfth Dynasty." Later in the same year M. Pierre Montet published a large fragment of a monumental bas relief, found shortly before at Byblus by M. Maurice Dunand, bearing the same name.[13] The size of the original relief may be judged from the fact that the fragment was 1.70 m. or nearly six feet in height. Montet was able to demonstrate convincingly that the remains of a royal Egyptian cartouche in the second column belonged to Pharaoh Nefer-ḥetep, the best known ruler of the Thirteenth Dynasty. This monument has recently been republished, with a photograph, by Dunand.[14] Unhappily the name of Entin's father is damaged; it was read *R-y-n* by the excavators, but it is possible that we should read *Y-k-n* (see my reconstructed tracing),

Tracing of the end of the vertical column of inscription before the seated figure on the Entin relief; the text reads *'r n ḥ3ty-ʿ Yk(?)n mȝʿ ḫrw*, "born of prince *Yk(?)n*, deceased." Based on the photo published by Dunand, with which the drawings of Montet and Dunand have been carefully compared. *Y* and *n* are certain; in a Semitic name beginning with *Y* and ending with *n* only *k* will fit the available space and the traces.

especially since the *y* should normally be expected at the beginning of a Canaanite name. This *Y-k-n* I should *tentatively* identify with the *Yakin-ilum* (or *Yakin-El*) of the Carnarvon cylinder published by Newberry in 1921,[15] who was a Canaanite vassal of a Seḥetep-ub-reʿ, perhaps the fourth king of the Thirteenth Dynasty;[16] this proposal is not, how-

[12] *Jour. Eg. Arch.*, XIV (1928), p. 109.

[13] *Kemi*, I, pp. 90 ff.

[14] *Fouilles de Byblos*, I, pp. 197 f., and Pl. XXX (*Atlas*).

[15] *Jour. Eg. Arch.*, VII, pp. 196 ff. For the reading of the name see my observations, *Jour. Pal. Or. Soc.*, II, pp. 120 f., and Sidney Smith, *Alalakh and Chronology* (1940), p. 15, n. 52. The values *ya-yi-yu* for *PI* appear now frequently in the Mari texts from the late eighteenth century B. C. It should be added that the name is to be read with a jussive *yakin*, not with an indicative *yakīn(u)*; it means "May the god (or El) establish." That this person was prince of Byblus is a natural inference from the Accadian *warad*, "servant of, officer of," and the Egyptian *mry Ḥthr nb[t Kbn]*, "beloved of Hathor, mistress of Byblus," since *Ḥthr nbt Kbn* is common in Egyptian inscriptions of the Twelfth Dynasty (cf. also Dunand, *Fouilles de Byblos*, I, p. 417). The Carnarvon Cylinder is now in the Metropolitan Museum in New York.

[16] Sidney Smith has pointed out that the cuneiform script of the cylinder is earlier

ever, in any way essential to the thesis defended in this paper. In 1934 Emil Forrer discovered a third scarab of the same Byblian prince Entin in connection with his soundings at Qal'at er-Rûs, on the Syrian coast some 25 km. south of Ugarit; the writer was present at the time and noted the fact that the scarab bore the same inscription as the two published by Newberry.[17] Since Qal'at er-Rûs is about 150 km. north of Byblus, this find indicates a very respectable diffusion for the scarabs in question.

The Semitic character of the name *'ntn* was recognized by Montet, who proposed to vocalize it as a Hebrew *Yinnaten*,[18] but the initial consonant is *aleph*, not *yodh*, and the form in question is quite unparalleled. The writer thought it was non-Semitic, comparing Ugaritic names ending in *ena*, which were then believed by Thureau-Dangin and others to be non-Semitic.[19] However, it is now certain that these Ugaritic names were Northwest Semitic, after all, and that their strange appearance is the result of abbreviation and phonetic modification.[20] The name *Entin* of Byblus is simply the abbreviated *Yantin*, from original *Yantin-'ammu*; such abbreviated names are exceedingly common in documents listing Northwest-Semitic names from the second millennium B. C. Moreover, the slight difficulty created by the lack of initial *yodh* in the Egyptian transcription is now completely removed, thanks to the observations of Jean, Dossin and others with regard to the regular change of *i'a*, *iya* and *ya* to *e* in the popular pronunciation of the age.[21] Examples are numerous; they occur not only in the Mari texts, but also among Northwest-Semitic names in contemporary Babylonian documents as well as in the somewhat later Amarna Tablets. Restricting oneself to a few examples, one may quote *Zimredda* and *Zimrêda* for older *Zimrī-Hadda* (*Hadad*);[22] *Niqmêpa* for *Niqmi-yapa'*;[23] *Eraḫ* for (*Y*)*araḫ*, the

than the lapidary script characteristic of the Hammurabi period (*loc. cit.*). When the cylinder was published it was read by Pinches, but Babylonian chronology then seemed to require a date not later than about 2000 B. C., so the Seḥetep-ub-re' of the Egyptian text apparently had to be identified with Amenemmes I (Wood's chronology: 1991-1961 B. C.). However, Newberry was not happy over this attribution (*op. cit.*, p. 198), since no cylinder-seals of the first two kings of the Twelfth Dynasty, Amenemmes I and Sesostris I, are known, "while of the Thirteenth Dynasty kings numbers are known, some being of very fine workmanship." We can now attribute our cylinder safely to either the fourth or the eighth king of the Thirteenth Dynasty, both of whom bore this prenomen. Since Seḥetep-ub-re' II (cir. 1762-61 B. C.) ruled over a year and seems to have left monuments in Egypt, we may plausibly attribute the cylinder to his reign. As we shall see below, n. 52, this attribution may suit Byblian evidence very well.

[17] See Forrer in Ann M. H. Ehrich, *Early Pottery of the Jebeleh Region* (Philadelphia, 1939), pp. 120 f.

[18] *Kemi*, I, p. 92, after Dussaud.

[19] *Jour. Pal. Or. Soc.*, XV (1935), pp. 226, 229.

[20] See provisionally my remarks in *Studies in the History of Culture* (Leland Volume, Menasha, 1942), p. 22, n. 27.

[21] Cf. Jean, *Revue d'Assyriologie*, XXIV (1937), pp. 169 ff.; Dossin, *Syria*, XX (1939), 169-176 (where numerous examples are given, though the phonetic nature of the shift was not fully understood); Albright, BULLETIN, No. 77, p. 25, n. 26. Note already Theo Bauer, *Die Ostkanaanäer* (1926), p. 63.

[22] Cf. Albright, *loc. cit.*

[23] This name is now known from Egyptian as well as from cuneiform transcriptions: cf. Dossin, *Syria*, XX, p. 174, and Albright, BULLETIN, No. 83, pp. 34 f., n. 14.

name of the Amorite moon-god (Heb. *yerah*);[24] *Emutbal(um)* for *Yamutbal(um)*, name of a district (properly a tribe) in the East-Tigris region occupied by Amorites;[25] *Ezraḫ-Dagan* for **Yazra'-Dagan*;[26] *Enḫamu* for *Yanḫamu*, name of a Canaanite viceroy of Egypt in Palestine cir. 1375 B. C.[27] The last illustration is particularly apt, since the name is also a characteristic abbreviation, exactly like *Yantin-Entin* in form.

We have seen above that Entin was still on the throne of Byblus in or after about 1730 B. C. Theoretically there is considerable scope for an indirect synchronism which involves three rulers, one having a reign of uncertain length. Fortunately, however, for us, Nefer-ḥetep reigned only eleven years (Turin Papyrus) and circumstantial evidence materially reduces the probable chronological scope of the documentary sources from Mari and Byblus. As we shall see, Egyptian evidence makes it likely that Nefer-ḥetep began to reign not far from 1740 B. C., whereas the Asiatic evidence makes it extremely difficult to believe that he was still alive after cir. 1730 B. C., when Zimrī-Lim became king of Mari.

The Mari evidence is circumstantial. No reference to Egypt or to Egyptian wares has yet been reported by the interpreters of the Mari documents. Yet in 1939 Dossin reported that he had hitherto found some six references to Ugarit, eight to Byblus, four to Cyprian copper and four to Cretan wares.[28] Even if, as only reasonable to suppose, a number of such references to Egypt turn up as the study of these documents proceed, their number must still be considered as surprisingly small when we bear in mind the wide diffusion of Egyptian goods throughout Western Asia in other phases of the Middle Bronze Age, not to mention the political prestige enjoyed by Egypt. This remarkable situation indicates that Egypt was already in the throes of the anarchy which ushered in the Hyksos Age, shortly after the death of Nefer-ḥetep (see below). A date after cir. 1730 B. C. for the death of Nefer-ḥetep thus becomes highly improbable in the light of the Mari indications.

Turning to Egypt, we are far better off chronologically than we were a decade ago. We shall base our sketch on Wood's convincing date for the accession of Sesostris III in the year 1879 B. C. (see above in this number). Accepting Edgerton's very probable solution of the relative chronology of the Twelfth Dynasty,[29] we reach 1778 B. C. as the last (incomplete) year of the Twelfth and the first of the Thirteenth Dynasty. Thanks to Farina's publication of the Turin Papyrus,[30] supplemented by contemporary monuments, we are now in a far better position to reconstruct the chronology of the Thirteenth Dynasty than

[24] See the names listed by Bauer, *op. cit.*, and note the name *Yaraḫtum*, cited to illustrate the original masculine *Yarḫum*, *Yaraḫ*.
[25] See Bauer, *op. cit.*, p. 28.
[26] See Bauer, *op. cit.*, pp. 24, 63.
[27] See Amarna No. 285: 10; 286: 28 (Knudtzon edition), spelled *E-en-ḫa-mu*.
[28] *Syria*, XX, pp. 110 ff.
[29] *Jour. Near East. Stud.*, I (1942), pp. 306-14.
[30] *Il Papiro dei Re restaurato* (Rome, 1938). The materia. restoration was carried out by Hugo Ibscher, the foremost expert of modern times in this field. The volume did not reach me until 1941.

we were a few years ago.[31] In the following table the first 26 of the 50 odd kings of the Thirteenth Dynasty are listed in accordance with the Ibscher-Farina revision of the Turin Papyrus:—

1. Khu-tawi-re' (Wegaf).[32] 2/3/24.[33] Several monuments known.[34]
2. Sekhem-ku-re' (Aman-em-ḥet-senbef). 0+/?/?.[35] A number of monuments known. His third year is recorded at Kahun.
3. Aman-em-ḥet. 3+/?/?. The identity of this king is still obscure.
4. Seḥetep-ub-re' II. 1/?/?. Several monuments known.[36]
5. Ewef-ni. (?) No certain monuments known.
6. S'ankh-ub-re' (Ameni-Entef-Aman-em-ḥet). (?) Several monuments known.
7. Semen-ku-re'. ?/?/4. No monuments known.
8. Seḥetep-ub-re' III. ?/?/4. No certain monuments known.
9. Sewadj-ku-re'. ?/?/6. No certain monuments known.
10. Nedjem-ub-re'. 0/1+/?. No certain monuments known.
11. Sebek-ḥatpe son of Mant-ḥatpe. 2+(?).[37] Monuments doubtful.
12. Rin-seneb. 0/4/0. No monuments known.
13. Ewet-ub-re'. 0/9/0. Uncertain whether monuments are to be attributed to him.[38]
14. Sedjefa-ku-re'. 0+/?/?. Monumental attestation doubtful.[39]
15. Sekhem-re'-khu-tawi Sebek-ḥatpe II. 0+/?/?. Numerous monuments.[40] Highest date in his fourth year.
16. Waser-ku-re' Khendjer. 0+/?/?. His pyramid and some monuments are known.[41] Highest date in his fourth year.

[31] I understand that Dr. H. E. Winlock is now working on the chronology of the Sixteenth Dynasty, so we may expect an outstanding contribution to the chronology of the Second Intermediate Period from his pen before long.

[32] Where vocalizations diverge from customary forms I have followed the evidence from later vocalizations and transcriptions: e.g., for *'ub*, "heart," see *Jour. Eg. Arch.*, XXIII, p. 201, n. 4; for *kuȝ*, "double, genius," see my *Vocalization* (1934), pp. 60 f.

[33] The three successive items represent the years, months and days of the king's reign in the Turin Papyrus. 0+ means that he may have reigned any reasonable number of years from zero up, since the Papyrus has preserved the characters for "year" but nothing else. 1+ means that he ruled at least one year but not more than four, since the higher digits are represented in hieratic by entirely different characters. The notation (?) means that no trace of the duration attributed to the reign has been preserved.

[34] The confusion between this king and No. 15 is now cleaerd up.

[35] At the end of the line there is the *djefa*-bird in red ink, followed by "six years" in black ink. This notation was formerly considered as the length of the king's reign or was simply neglected; the meaning is "interregnum," or the like, according to Farina, following Borchardt. Three other examples occur in the extant portion of the Papyrus, all in the Second Intermediate.

[36] For the seal-cylinder, probably from Byblus, see above, note 16.

[37] The meaning of the fragment of number is uncertain.

[38] To this king belongs probably an enigmatic tomb at Dahshūr, sometimes attributed to the Twelfth Dynasty; for a detailed discussion cf. Weigall, *A History of the Pharaohs*, Vol. II, pp. 147 ff.

[39] The same prenomen, *Sedjefa-ku-re'*, with the personal name *Kuya Aman-em-ḥet*, appears along with *Khu-tawi-re' Wegaf* (No. 1 in the Thirteenth-Dynasty list of the Turin Papyrus) on a monument from Medamūd, discussed in detail by R. Weill, *Revue de l'Egypte Ancienne*, II (1929), pp. 156-163. Weill deduced from it that the Turin Papyrus confused the names of Nos. 1 and 15, so that Wegaf should be No. 15, but this solution raises more problems than it solves.

[40] The number of known monuments has been materially increased by finds at Medamûd.

[41] See Jéquier, *Deux pyramides du Moyen Empire* (Cairo, 1933), pp. 3 ff., 26 ff., and *Douze ans de fouilles dans la nécropole memphite* (Neuchatel, 1940), pp. 140-149.

17. Semenkh-ku-re' *Mr-mnfytyw* ("Mer-mesha"). (?) Massive statues at Tanis and unfinished pyramid, dated in his third year, near Memphis.[42]
18. Senefer-ku-re'(?). (?) Obscure.
19. [ ]-Sutakh. (?) Otherwise unknown.[43]
20. Sekhem-re'-sewadj-tawi Sebek-ḥatpe III. 3/2/?. Numerous monuments.
21. Kha'-sekhem-re' Nefer-ḥetep. 11/?/?. Many monuments in all parts of Egyptian empire, including Byblus.
22. Si-ḥatḥar. 0/?/3. Scarabs only.
23. Kha'-nefer-re' Sebek-ḥatpe IV. (?) Many monuments from all parts of Egypt.
24. Kha'-ḥetep-re' (Sebek-ḥatpe V). 4/8/29. Scarabs.
25. Waḥ-ub-re' A'-ub. 10/8/18. A few monuments.
26. Mer-nefer-re' Aya. 13/8/18. Practically nothing but scarabs.

According to Farina's very probable reconstruction of the Turin Papyrus there follow 28 more rulers of the Thirteenth Dynasty, all ephemeral and most of them subject to the Hyksos monarchs of Lower Egypt; in all there were some 54 Pharaohs who may be attributed to this dynasty. No. 52, Neḥasi, is attested monumentally to have been a Hyksos vassal. No. 36, [Dede]mes, has been plausibly conjectured by Weill and others to have been the Timaios under whom, according to Manetho, the Hyksos conquest of Egypt was consummated.[44] We shall return to this point below.

Turning first to the period which elapsed between the end of the Twelfth Dynasty, now apparently fixed by Wood in 1778 B. C., and the accession of Nefer-ḥetep, it must be emphasized that Farina's recon-

[42] See Jéquier, *Deux pyramides*, pp. 55 ff., 67 f.; *Douze ans de fouilles*, pp. 149-155. The name of the king buried in the pyramid is not mentioned, but half a dozen hieratic graffiti on building stones mention the third year (and no other year), so Jéquier's deductions as to the king's identity seem very strong. Building of the elaborately planned pyramid evidently did not begin until the third year and was broken off before the fourth, a fact which alone makes identification with the only other possibility, Sebek-ḥatpe II, very difficult, since he was still alive in the fourth year of his reign.

[43] The name [ ]-*Sutaḫ* is particularly interesting as a proof either that this deity had become popular among native Egyptians immediately before the Hyksos invasion or that the Semites had already identified Seth (older Sutakh) with their own storm-god, Baal-Hadad. The latter alternative seems more reasonable to me. Dussaud has recently called attention to the fact that the name *Ḫndr* (Khendjer) resembles Ugaritic *ḥnzr* (possibly meaning "boar") so closely that the former would be the normal Egyptian transliteration of the latter.—As an illustration of Semitic influence under Nefer-ḥetep, the next king but one, I should like to call attention to the word *mtnyt*, "reward," in line 40 of his Abydos inscription, in a passage translated by Sethe (*apud* Pieper, *Mitt. Vord.-aeg. Ges.*, 32, 2, p. 43) "The reward of the doer is in what he has done." The word appears in the same meaning "present, reward" both as noun *mtn*, *mtnt*, and denominative verb in texts of the fifteenth and fourteenth centuries (WB, II, 1, p. 170); the spelling *mtnyt* is perhaps due to confusion with *mtnyt*, "axe," which appears in Middle-Egyptian texts. The Northwest-Semitic source is naturally *mattanu*, *mattantu*, "gift, present."

[44] The manuscript evidence for this passage of Manetho, preserved by Josephus, c. Apion., I, 75, is unfortunately bad; Isidore Lévy and Weill preferred to read *Toutimaios*, which the former first suggested as equivalent to *Ddw-ms* (*apud* Weill, *Jour. As.*, 10. sér., 16, pp. 315, 323). It may be observed in passing that the Greek transcription *Timaios* may easily be correct in spite of its Hellenic appearance; a hypocoristic abbreviation **Ddmy* would be parallel to the well-known *Ptḥmy* (Amarna *Taḥmaya* and *Ataḥmaya*) = *Ptaḥ-mase* and *"ḥmy* (Amarna *Ia'amaya*, correctly read by Winckler in EA 62: 42, 45, but misread by Knudtzon and never identified hitherto) *I'aḥ-mase* (Amosis).

construction, materially assisted by recent discoveries by Jéquier and others, has completely altered our point of view. We need no longer reckon with the attempts by R. Weill to rearrange the order of the names listed in the Turin Papyrus;[45] Khendjer's place is now certain, as is the position of the two kings called Sebek-em-saf in the Seventeenth Dynasty.[46] Unfortunately many regnal years have been lost, but it will be noticed that nearly all of the lost entries belonged to ephemeral rulers who have left no monuments at all, or at best very few. Eight of the twenty precursors of Nefer-ḥetep are known to have reigned at least one year each. Seven of these are well represented by inscriptions; our apparent lack of attestation for No. 3 is probably due to the fact that we do not know his prenomen and cannot, therefore, be sure as to which of the unattached rulers called "Aman-em-ḥet" is meant.

If we then add the totals for the first twenty reigns we have a minimum of some 31 years (counting the six-year interregnum recorded by the Turin Papyrus) and a probable total of about 38 years, distributed as follows:

Kings	1- 4,	minimum estimate	15	years,		probable	17	years
"	5-11	"	"	2	"	"	5	"
"	12-20	"	"	14	"	"	16	"

Deducting our probable 38 years from Wood's date for the end of the Twelfth Dynasty, we arrive at a date cir. 1740-1729 B. C. for Nefer-ḥetep. Assuming the substantial correctness of the data transmitted in the Turin Papyrus, it becomes impossible to date Nefer-ḥetep before cir. 1747 B. C. Combining the evidence of the Turin Papyrus and the monuments, it is very difficult to date this king's accession after cir. 1735.

Moreover, a date for the death of Nefer-ḥetep cir. 1730 B. C. fits the now available Egyptian evidence for the following period very well, though we lack enough precise data to reach exact conclusions. Since the discovery of Nefer-ḥetep's relief at Byblus it has become impossible to date the beginning of the Hyksos occupation of Lower Egypt before the end of his reign. No. 23, Sebek-ḥatpe IV, has left inscriptions in Lower Egypt, but the following kings are restricted to Upper Egypt, except for occasional scarabs and other portable objects bearing their names. Moreover, the insignificance of these later kings is well illustrated by the extraordinary paucity of monuments of Nos. 24 and 25, for example, though they reigned in all nearly sixteen years. Hence it is commonly believed that the Egyptians lost control of Lower Egypt about this time, not later than cir. 1720 B. C. if we may judge by the famous 400-Year Stela.[47] If Pieper's suggestion, adopted by many Egyptologists and historians, is correct, we may place the beginning of

[45] Weill operated almost entirely with groups of kings resembling one another in name or character of monument, etc. In principle the method is correct, but where so small a period of time is involved it becomes extremely hazardous.

[46] See Winlock, *Jour. Eg. Arch.*, 10, pp. 217 ff., and Smither, *ibid.*, 25 (1939), p. 36.

[47] For the text and its interpretation see especially Sethe, *Zeits. Äg. Spr.*, LXV (1930), pp. 85 ff., and Montet, *Kemi*, IV, pp. 191-215. Cf. also my remarks in BULLETIN, No. 58 (1935), p. 16.

the Fifteenth Dynasty, whose first king, Salitis, overran all Egypt, in the time of Dede-mes, probably the 36th king of the Thirteenth Dynasty. The regnal years of nine of the fourteen kings between Nefer-ḥetep and Dede-mes are known; they total 40 years and some months. Except in the case of Sebek-ḥatpe IV, there is no reason to allow more than a few months each for the other five rulers; a total of five years would seem ample, yielding some 45 years for the interval in question, during most of which Lower Egypt was certainly in Hyksos hands. Thirty or more years is probably enough to allow the early Hyksos rulers such as 'Anat-har, Ya'qub-har and Samuqena, who preceded the Fifteenth Dynasty, as shown archaeologically by Petrie and the writer[48] and confirmed by the new reconstruction of the Turin Papyrus. Thanks to Farina, it is now known that the Fifteenth Dynasty, to which Salitis, Apophis I and Khayana belonged, lasted some 108 years,[49] but its chronological position remains elastic as long as there is no peg by which to attach it firmly to native Egyptian chronology. Salitis may not have overrun Upper Egypt until well along in his reign, and we do not know how much time should be attributed to the two Apophids (and other Hyksos kings) who ruled after the end of the Fifteenth Dynasty and before the date, apparently well along in the reign of Amosis I,[50] when the Hyksos were finally expelled from Egypt. Taking all the preceding facts into account, a date cir. 1690-1580 for the Fifteenth Dynasty can not be far wrong, and Salitis *may* have overrun Upper Egypt about 1685 B. C.[51]

Calculations from both directions thus make it probable that Nefer-ḥatpe reigned cir. 1740-1729 B. C. and virtually certain that he was on the throne during part, at least, of the decade 1740-1730 B. C. This conclusion is in striking agreement with the evidence of the Mari tablets, as we have seen. If Yantin-'ammu of Byblus held office between 1740 and 1720 he could have been contemporary with both Nefer-ḥatpe of Egypt and Zimrī-Lim of Mari (cir. 1730-1700), without the slightest strain on probability.[52] In this indirect synchronism we thus have

[48] Cf. my observations, *Jour. Pal. Or. Soc.*, 1935, pp. 226 ff.; *Annual*, XVII, pp. 44 f. For the name *Samuqena* (*Smqn*), which appears later in Ugarit, cf. Thureau-Dangin, *Syria*, XV, p. 139 (written *Ša-mu-qé-na*). For the contemporary *Bbnm* = *Bablimma* (of the Qatna inventories) see *Jour. Pal. Or. Soc.*, 1935, p. 227, n. 107.

[49] It is true that the units are not visible in the photograph of the Turin Papyrus, but since Farina had reported this discovery some years before (in Pahor Cladios Labib, *Die Herrschaft der Hyksos in Ägypten*, 1936, p. 22), it may be supposed that the traces of the characters for "eight" were either lost before the photo was made or were found later. In no case can Farina's good faith be called into question, nor is easy skepticism warranted.

[50] Adopting the chronology of Edgerton, *Am. Jour. Sem. Lang.*, LIII, 196, we may date Amosis I cir. 1570-1546 B. C.

[51] Following the regnal years restored by Farina (*Papiro dei Re*, p. 56) we may then date Apophis I (who reigned over 40 years) cir. 1645-1605 and Khayana cir. 1605-1580 (allowing him a conjectural 25 years of reign). In this case he would be roughly contemporary with 'Ammi-ditana (cir. 1619-1583 B. C.).

[52] So far as we know from the published documents there are now some four princes of Byblus during this period whose identities are established by local inscriptions. If we omit the doubtful Ilum-yapa (cf. Amorite *Yapa-ilum* of contemporary cuneiform records) who may have flourished at the very beginning of the Thirteenth Dynasty (see Montet, *Byblos et l'Egypte*, pp. 196 ff., and my remarks, *Jour. Pal.*

another strong argument for the adjusted chronology of the Khorsabad List.

AN UNKNOWN REPRESENTATION OF A ZIGGURAT

EDITH PORADA

A cone-shaped stamp seal of brown limestone in the collection of the Metropolitan Museum adds one more to the few examples of ziggurats on cylinders[1] and stamp seals[2] from the first millennium B. C. This interesting representation is engraved on one side of the seal (Figs. 1 a

Fig. 1. b c a d

a-c: impressions made with the two sides and the base of the seal;
d: the base of the seal.*

Courtesy of the Metropolitan Museum.

* Accession No. 86. 11. 34; height: 24 mm, length of base: 21 mm, width: 16 mm.

and 2), showing two emblems resting on the lowest stage of the edifice, flanking the upper ones; a star is in the sky. The other side of the seal (Fig. 1 b) shows a worshipper before the symbol of Nabu and an incense burner;[3] in the sky is a crescent. Carved on the slightly convex oval base of the seal (Fig. 1 c, d) is a goddess seated on a chair. Over her raised hand is a drilling, and a curiously rendered small object, perhaps an abbreviated symbol of Marduk, is in the field before her.

The date of the piece is indicated by the representation on the base, more precisely by the chair of the goddess; the back of that chair shows the characteristic disks,—apparently an abbreviated rendering of stars—which we also find on the relief from Maltai,[4] probably from the time of

Or. Soc., 1928, p. 226, n. 1; 1935, p. 226, n. 103), we have three. Yakin-ilum would fit very well into this sequence, as is clear from the following table:—

Abi-shemu (also Abi), cont. Amenemmes III (1840-1792)	cir. 1810—
Yapa-shemu-abi, his son, cont. Amenemmes IV (1792-1783)	cir. 1790—
(Yakin-ilum (also Yakin?), cont. Sehetep-ub-re' II (c. 1763)	cir. 1765—)
Yantin-'ammu (also Entin), his son (?), cont. Nefer-hetep (c. 1740-1729)	cir. 1740—

[1] Cf. Moortgat, *Vorderasiatische Rollsiegel*, Berlin, 1940, Nos. 591 and 592.

[2] More precisely the *impression* of a stamp seal, Layard, *Monuments of Nineveh*, 2nd series, London, 1853, pl. 69: 3.

[3] The symbol of Nabu in combination with an incense burner instead of the usual symbol of Marduk is also found elsewhere as, for example, on a cylinder from Khorsabad, Loud-Altman, *Khorsabad*, pt. II, Chicago, 1938 (OIP XL) pl. 57: 88. In addition, that seal shows an emblem corresponding to those flanking our ziggurat.

[4] Cf. Bachmann, *Felsreliefs in Assyrien*, Leipzig, 1927. Tafel 29, Relief II, Göttin Ninlil.

Sennacherib[5] and on Esarhaddon's stela from Zendjirli.[6] Earlier representations such as the cylinders of the ninth and early eighth century B. C.[7] show, on the contrary, the back decorated by stars with their rays clearly delineated. Furthermore, the disproportionately tall, turned feet of the seats and stands which can be observed in the furniture depicted on the reliefs from Sargon onwards[8] are clearly indicated on our seal. This establishes the middle of the eighth century as a date *post quem* for our piece. As a lower limit I would suggest the end of the seventh century B. C., as I regard the linear engraving of the seal as indication of Assyrian rather than of Babylonian glyptic style. This is confirmed by the robe of the worshipper on the second engraved side of the seal, which shows a fringe running down the front of the garment. This is a cursory rendering of the Assyrian robes, which on the seals show a fringe over the hip, often drawn up over the shoulder. Babylonian worshippers, on the contrary, are seen with robes showing a line of fringe only at the bottom.

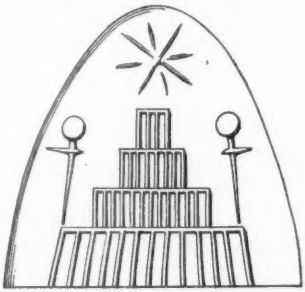


Fig. 2. Enlarged and partially reconstructed drawing of Fig. 1a.

We turn now to the representation of the ziggurat. It shows four stages with the recesses indicated in the same manner as on the cylinder seal Moortgat, *Vorderasiatische Rollsiegel* No. 591, from Assur. It is interesting to note that in our representation the sides of the lowest stage are definitely sloped. Dombart in his discussion of ziggurats[9] based himself on the archaeological material produced by Andrae[10] to suggest that only the pre-Assyrian ziggurats of the Sumero-Babylonian south had sloping sides, whereas the Assyrian and Neo-Babylonian ones had vertical walls. However, it does not seem entirely out of the question that our ziggurat portrays a temple tower which conformed to earlier tradition by having a sloped lowest edge.[11] An alternative expla-

[5] Cf. Thureau-Dangin, " Les sculptures rupestres de Maltaï," RA 21 (1924), p. 197.
[6] Cf. *ibid.*, p. 196. [7] Cf. Moortgat, *op. cit.*, Nos. 654-656.
[8] Cf. Botta-Flandin, *Monuments de Ninive I*, Paris, 1849, especially the banquet scene in the upper register of Pl. 57 and the following plates.
[9] Dombart, " Zur Frage der Böschung am Babelturm," AfO VII (1931-2), pp. 254-5.
[10] Cf. Dombart, *ibid.*
[11] Cf. Andrae, *Das Gotteshaus und die Urformen des Bauens im alten Orient*, Berlin, 1930 (*Studien zur Bauforschung*, Heft 2). Cf. note 1 (ctd. from p. 13 on p. 14) for remarks concerning the individual character of the single ziggurats.

nation for our representation is that the seal cutter was more conservative than the architect.

Like all other representations of ziggurats on cylinder seals [12] and on the impression of a stamp seal from Kujundjik [13] the present example fails to show any stairways despite the fact that the presence of such stairways is documented by archaeological [14] and literary [15] evidence. The explanation already suggested by Dombart [16] is that the ziggurat served as the god's path to and from the sky and that the deity would not need stairways, but would use in his gigantic stride the stages of the temple tower as steps.[17]

As for the two emblems flanking the ziggurat they indicate undoubtedly the identity of the deity to whom it was dedicated. However, their interpretation is far from certain. At first glance, they give the impression of daggers and it would have been interesting to find here the *paṭru* of Asshur mentioned in the Cappadocian texts.[18] However, a contemporary cylinder, Moortgat, *op. cit.*, No. 611, shows two heroes each holding such an object *by the point*. As this representation rules out the "dagger" interpretation, we have to assume that they are maces.[19]

It remains to be noted that the present representation conforms to one of the Hammurabi period [20] by showing two emblems flanking the ziggurat.[21] This type of representation suggests that the horns which are taken by many to have adorned the top of every ziggurat [22] and which are so appropriate a parallel to the horns on the altar of Solomon,[23] should be strictly limited to the ziggurat of Susa,[24] and also suggests that the top sanctuary was flanked by the emblems of the specific deity to which the ziggurat was consecrated.

[12] Cf. Dombart, "Alte und neue Ziqqurat-Darstellungen," AfO V (1928), p. 224 Abb. 5, p. 225 Abb. 7 and p. 226 Abb. 8, 9.

[13] See note 2.

[14] Cf. Dombart, *Der Sakralturm I. Teil: Zikkurrat*, München, 1920, pp. 3-8.

[15] Cf. Herodotus I/181-182; for comment on Herodotus' report cf. Wetzel-Weissbach, *Das Hauptheiligtum des Marduk in Babylon . . .* Leipzig, 1938 (WVDOG 59), p. 80.

[16] Cf. Dombart, *Der babylonische Turm* (*Der Alte Orient*, Bd. 29, Heft 2, 1930), pp. 9-10.

[17] A god ascending the stages of a ziggurat (with the original idea of the mountain indicated), is seen in Frankfort, *Cylinder Seals*, London, 1939, pl. XVIII: k.

[18] Cf. Oppenheim, "Lexikalische Untersuchungen zu den kappadokischen Briefen," AfO XII, 1937-8, pp. 343 ff.

[19] Another possibility is that these emblems, which do not occur on seals before the end of the 8th century B.C., are abbreviated renderings of the Egyptian life-sign which we find on several Neo-Assyrian and Neo-Babylonian stamp and cylinder seals placed in the field in the same manner as we elsewhere see our maces. A good example of the occurrence of the life-sign is Delaporte, *Catalogue des cylindres orientaux . . . Musée du Louvre*, Paris, 1923, vol. II, A 768, and for the "mace" in similar position, *ibid.*, A 735. A third alternative is that the emblems represent the same objects which two attendants hold on the relief of Asshurbanapal reproduced by Place, *Ninive et l'Assyrie*, Paris, 1857, tome III, pl. 52: 2.

[20] Cf. Legrain, *The Culture of the Babylonians from their Seals*, Philadelphia, 1925 (PUMBS, vol. 14), No. 346.

[21] The reason for which they are placed in our seal on the second instead of on the last stage is likely to have been purely aesthetic.

[22] Cf. Andrae, *op. cit.*, p. 43 and pp. 59 ff.

[23] Cf. Wright, "The Temple in Palestine-Syria," *Bibl. Arch.* VII: 4 (Dec. 1944), p. 74.

[24] Cf. Dombart, "Das Zikkurratrelief aus Kujundschik," ZA (NF) IV (1929), 39 ff., especially pp. 62-3.

ACKNOWLEDGMENT TO DR. HILDEGARD LEWY

On May 24th I received a letter from Dr. H. Lewy, from which I quote the following salient paragraph:—

"I just received the latest issue of the BULLETIN [No. 98], and I am surprised to learn from p. 26, note, that you wrote to me a letter on February 19. I never received that letter, and, frankly speaking, I felt a little intrigued at the fact that no acknowledgment of my letter of February 16, 1945, was forthcoming. I happen to have kept the postal card which I intended to mail to you on this account on the very day, when I received the proofs, and I am enclosing it herewith in order to convince you that no letter of yours arrived at my address before the arrival of that galley. It now seems that you were equally intrigued at the lack of a reply on my part. . . ."

It is a pleasure to ask interested readers of the BULLETIN to correct my footnote in a previous number in accordance with Dr. Lewy's information. It is sobering to think of many occasions when misunderstandings and coolness have arisen through circumstances for which neither party was responsible, or where thoughtlessness in using language calculated to hurt another scholar has created needless bitterness.

W. F. ALBRIGHT.

SOME PUBLICATIONS RECEIVED BY THE EDITOR

I. ANCIENT NEAR-EASTERN ARCHAEOLOGY

The second volume of *Kedem*, the archaeological organ of the Hebrew University, edited by Professor E. L. Sukenik (Jerusalem, 1945), is superior even to the excellent first (BULLETIN, No. 90, pp. 39 f.). During the past three years Sukenik and his colleagues have been far from idle. For lack of space we can touch only on a few high-lights of the volume, which merits detailed reviewing. Of outstanding interest are two papers, the more novel of which is Yeivin's "A New Ugaritic Inscription from Palestine" (pp. 32-41), which deals with a bronze knife-blade from the period 1350-1250 B. C. (a date which seems correct), found east of Tabor in the territory later occupied by Issachar. On the knife-blade is a nearly complete inscription in alphabetic cuneiform, which runs from right to left like the Beth-shemesh tablet and a single tablet hitherto reported from Ugarit itself; moreover, the characters have the same peculiarities of form which set these two documents off from all other Ras Shamrah texts. With slight divergences from Yeivin's interpretation I should read *l-ṯ[ṯ]lb'l b⟨n⟩ Plṣb'l*, "Belonging to Ṣillī-Ba'al, son of Palṣī-Ba'al." The names are very interesting and belong to a type which became common toward the end of the Late Bronze Age. The second outstanding novelty is the description and partial publication by Kutscher and Polotsky (pp. 66-74) of the contents of the Borchardt-Mittwoch archive of leather rolls from Egypt, containing letters from the satrap Arsames (of Elephantine fame) to Egyptian officials, about 410 B. C. For Persian administrative practice, for the philology of Persian Aramaic (Biblical Aramaic), for Pahlavi origins, for biblical history, etc., these documents are of unique significance, demolishing old hypotheses and creating new problems. We look forward eagerly to the publication of the rest of them when world conditions have improved and the remaining rolls are accessible again to scholars.—An interesting sherd containing an archaic alphabetic inscription from Tell eṣ-Ṣârem, ancient Rehob south of Beth-shan, is published by Ruth Brandstetter-Kallner (pp. 11 ff.). I agree entirely with Sukenik's provisional date for it, in the 13th or 12th century B. C. (p. 15). Since the sherd contains only a fragment from the middle of an inscription in several vertical lines, it seems hopeless to try to interpret it. The object to which it belonged was an incense stand of the class discussed by the reviewer in the BULLETIN, No. 58, pp. 28-29 (cf. also Albright and Rowe in the *Journal of Egyptian Archaeology*, 1928,

pp. 285 f.).—In addition to these papers there are many other important contributions to less sensational subjects—Hebrew seals, numismatics, new tombs with ossuaries in the Kedron Valley (Sukenik, pp. 23-31), burial practices and city gates at Samaria (Sukenik, pp. 42 ff., 59 ff.), and papers by Sukenik, Fraenkel, Cassuto, Akavya on a new series of Hebrew tombstones of the fifth and sixth centuries A. D. from Zoar south of the Dead Sea (pp. 83-98), etc.

Delayed by war conditions, but very welcome, is Dr. Robert J. Braidwood's preliminary report on "Two Sondages on the Coast of Syria, South of Tartous" (*Syria*, 1940, pp. 183-226, with 9 plates). The report was written before the appearance of Ann M. H. Ehrich's important monograph on the results of Forrer's soundings in the Jebeleh region (*Early Pottery of the Jebeleh Region*, Philadelphia, 1939), but Braidwood informs me that he is going to take the subject up again soon on a broader basis. On the question of Simyra and the mounds of the Eleutherus Valley note also BULLETIN, No. 21, pp. 4 f., and *Jour. Pal. Or. Soc.*, 1928, pp. 236 f., which would have added materially to his documentation.

An important contribution to the archaeology of the Mediterranean Iron Age is Dr. Doro Levi's *Early Hellenic Pottery of Crete* (Princeton University Press, 1945, 32 pp. and 32 plates [reprinted from *Hesperia*, Vol. XIV], $4.00). One may regret the author's caution in not venturing an absolute chronology, as well as his exaggeration of direct Mycenaean influence and his pronounced aversion (as a resolute exponent of the once-dominant school which refuses to admit oriental and especially Semitic influences in Greek and Italian lands) to the Phoenicians, but the content of his work retains its value.

Lovers of Egypt, archaeologists and artists will be alike charmed by the beautiful quarto volume, *Egypt*, photographed by Hoyningen-Huene, with text by George Steindorff (New York, J. J. Augustin, 1945, 171 pp., $10.00). Lavishly illustrated with superb original photographs, and provided with an interesting descriptive text by the foremost living Egyptologist (long professor at Leipzig, now an American citizen), the book cannot be too highly praised for the quality of what it offers.

II. Arts and Sciences

It is an unusual pleasure to call the attention of every reader to the superb paper, "The History of Ancient Astronomy: Problems and Methods," by Professor O. Neugebauer of Brown University (*Journal of Near Eastern Studies*, IV [1945], pp. 1-38). Here we have, presented with unexampled clarity and hitherto unequalled competence, a sketch of our knowledge of Egyptian, Mesopotamian and Greek astronomy, giving the latest word on every point discussed, and placing each phase of the history of astronomy in its proper historical and cultural perspective.

Drs. Robert Potter Elmer (America's leading authority on the theory of archery) and Nabih Amin Faris (of Princeton University) have collaborated in a translation and interpretation of a late mediaeval Arabic manuscript on *Arab Archery* (Princeton University Press, 1945, xi + 182 pp., with many illustrations, $3.00). This admirable treatise contains a mine of information for mediaevalists and students of ancient culture; it is in every respect a model of its kind, on which we congratulate the authors.

III. Linguistics

Dr. Wolf Leslau of the École Libre des Hautes Études in New York has published *Gafat Documents* (American Oriental Society, New Haven, Conn., 1945, 188 pp., $3.50), in which he analyzes the extant data for the linguistic reconstruction of a now extinct South-Semitic dialect of Abyssinia. The grammatical sketch is excellent and comparatists will find much valuable material in the grammar and especially in the detailed glossary. The work might have gained somewhat if the author had been able to consult the Ethiopic version of Canticles in the London Polyglot.

A very significant preliminary study by Professor R. H. Stetson on *Bases of Phonology* (Oberlin College, Oberlin, O., 1945, 112 pp.) will be heartily welcomed by all broad-minded students of theoretical linguistics. Some linguists who regard themselves as peculiarly up to date may be shocked to find a first-class experimental linguist lining up with the so-called "mentalists" in opposition to the now dominant American school of behavioristic "anti-mentalists." Stetson's target is not, of course, their insistence on careful analysis of synchronic speech-forms as a *sine qua non*,

but their doctrinaire creation of a linguistic discipline which leaves little room for the phonetic laboratory and disregards some of its best-attested observations. Certain phonemic speculations come off badly from the author's acid criticism.

IV. Biblical Studies

Along with a number of strictly popular or religious books which would be out of place here, the editor has received several original investigations of serious character. Father Rudolph P. Bierberg has published an excellent dissertation, *Conserva Me Domine, Psalm 16 (15)* (Washington, The Catholic University Press, 1945, 141 pp.), which offers a very well documented study of this psalm from a conservative Catholic point of view. The reviewer may, in passing, call the author's attention to BULLETIN, No. 83 (1941), p. 42, n. 31, where he deals with an interesting Ugaritic parallel to verse 5.

Two Hebrew books have been lately received: Dr. Ch. W. Reines' *Kôhanîm u-Nevî'îm* (New York, 5705 = 1945, ix + 83 pp.) and Dr. P. Korngrün's *Ḥuqqê ham-Mizraḥ haq-Qadmôn* (Tel Aviv, Yavneh, 5704 = 1944, x + 288 pp.). In his "Priests and Levites" the former has written a decidedly original but somewhat speculative study, based on wide reading and intensive thought. To illustrate his approach, which may perhaps be styled sociological allegorizing, we note that Moses, Aaron and Miriam represent types of the charismatic leader, the priest, and the prophet, respectively; the figure of Moses displaced other early leaders in tradition. In a new edition we hope that the author will correct the misprints with which the book unfortunately abounds.—Dr. Korngrün, who is a judge in Tel Aviv, gives us a valuable interpretation of the history of biblical law from the standpoint of a trained jurist, an experienced magistrate, and an assiduous student of the Bible; he analyzes "The Laws of the Ancient East," Babylonian, Assyrian, Hittite, with a view to determining the historico-cultural relationship between them and the laws of the Pentateuch. With his principal contention, that the laws of the Torah reflect the second millennium B. C., not the first, the reviewer is in general agreement, though he is unable to accept the author's detailed conclusions throughout. As an illustration of the reaction of common sense, based on archaeological discovery, against the excesses of past historical and literary criticism, the book is most timely.

V. Arabica and Judaica

Dr. Nabih A. Faris of Princeton University (now in government service) edits an admirable collection of lectures at the Summer Seminar in Arabic and Islamic Studies at Princeton in 1941, under the title, *The Arab Heritage* (Princeton, Princeton University Press, 1944, xi + 279 pp., with 18 figures outside the text, $3.00). The largest single contribution is an admirable account of "Islamic Origins; A Study in Background and Foundation" by Julian Obermann of Yale. There are also very learned and stimulating lectures by Philip K. Hitti on Arab studies in America and their future, by Levi Della Vida on "Pre-Islamic Arabia" (where much neglected material is brought into the picture, but where the cuneiform sources for early Arabic history are practically ignored), by von Grünebaum on pre-Islamic and early Islamic Arab poetry, by Faris himself on the philosopher Al-Ghazzâlī, etc. This is a volume to be purchased and read; nothing like it can be found elsewhere within the covers of a single volume.

In providing students with an accurate, fully vocalized abridgement of Maimonides' *Mishneh Torah* (New York, Hebrew Publishing Company, 1944, lxii + 336 pp.), Dr. Philip Birnbaum has merited well of them. The footnotes translating difficult or unusual expressions will be found particularly helpful.

Professor Leon Roth of the Hebrew University in Jerusalem has just added two attractive items to the long list of Hebrew volumes from his pen: *Mip-pî 'Elyôn (Ex Ore Altissimi, an Anthology of Hebrew Scriptures*, Tell-Aviv, Yavneh, 1944, 193 pp.) and *Limmûd gāvōah ve-ḥinnûkh had-dôr (The Hebrew University and its Place in the Modern Jewish World*, Tell-Aviv, Yavneh, 1944, 174 pp.).

From the able pen of Professor Simon Halkin of the Jewish Institute of Religion comes an extremely interesting little book, *Hebrew Literature in Palestine* (New York, American Fund for Palestinian Institutions, 48 pp.), describing the unfolding of Hebrew literature in modern Palestine, with the broad perspective and delicacy of feeling for which the author is well known.

W. F. ALBRIGHT.

NOTES ON PUBLICATIONS OF THE SCHOOLS

The New Haven office has some slightly shelf-worn copies of vol. II of *Greek Manuscripts of the New Testament in Jerusalem*, by W. H. P. Hatch. This volume was printed in France, and the original price was 125 francs, which at that time was equivalent to $4. It has been decided to offer the copies on hand at the reduced price of $2.50.

The English agency for the *Annual* has been taken over by B. H. Blackwell Ltd. of Oxford.

The protracted work of setting type for the two volumes of the Tell en-Naṣbeh publication, edited by Professor C. C. McCown, is practically completed; it is hoped that the work can appear before the end of the winter, in spite of the delays caused by war shortages.

Dr. S. N. Kramer's important study, *Enki and Ninḫursag: a Sumerian "Paradise" Myth*, has just appeared as *Supplementary Studies* of the BULLETIN, No. 1 (price $0.75 postpaid if ordered separately). The next two numbers will comprise, it is hoped, two other studies of first-rate significance for the religious literature of the ancient Near East: H. L. Ginsberg's edition of all three tablets of the Keret Epic of Ras Shamrah, only one of which has hitherto been available in this country; S. N. Kramer's *Gilgamesh and the Land of the Living*, a Sumerian heroic poem, which will introduce scholars to an almost unknown category of Sumerian epic composition. It is hoped that one of them will appear this coming winter and another the following summer or autumn. The series may be subscribed for at the flat rate of $1.00 a year, which will entail considerable saving in the course of a few years.